

Date: Sat, 21 Aug 93 04:30:14 PDT  
From: Ham-Ant Mailing List and Newsgroup <ham-ant@ucsd.edu>  
Errors-To: Ham-Ant-Errors@UCSD.Edu  
Reply-To: Ham-Ant@UCSD.Edu  
Precedence: Bulk  
Subject: Ham-Ant Digest V93 #20  
To: Ham-Ant

Ham-Ant Digest                      Sat, 21 Aug 93                      Volume 93 : Issue    20

Today's Topics:

          antenna protection (2 msgs)  
          ASA 9209 2M colinear - opinions?  
          Mininec questions  
          TR 18 rotator?  
          Wavelength formula

Send Replies or notes for publication to: <Ham-Ant@UCSD.Edu>  
Send subscription requests to: <Ham-Ant-REQUEST@UCSD.Edu>  
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Ant Digest are available  
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-ant".

We trust that readers are intelligent enough to realize that all text  
herein consists of personal comments and does not represent the official  
policies or positions of any party. Your mileage may vary. So there.

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Date: Thu, 19 Aug 1993 20:34:30 GMT  
From: sdd.hp.com!usc!howland.reston.ans.net!torn!nott!cunews!freenet.carleton.ca!  
Freenet.carleton.ca!ae517@network.ucsd.edu  
Subject: antenna protection  
To: ham-ant@ucsd.edu

In a previous article, drobert@vax2.concordia.ca (DENIS ROBERT, VE2ILF) says:

>     Hi all, I've just finished building a small 1/4 wave ground plane base  
>antenna to use on the balcony. It's made of 10 gauge copper wire. I would like  
>some suggestions as to how I can keep this thing from oxydizing (I assume it  
>will very quickly!). Can it be painted or lackered over without affecting  
>performance?

>

I bought some automotive rubberized rocker panel protector at  
Canadian Tire for my copper cactus j-pole. It comes in a spray  
can in various colours.

ca marche comme sur les roulettes et ca ne couts pas trop cher!

73

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Russ Renaud   ve3uav/aa8lu   1 Internet: ae517@freenet.carleton.ca  
CCG-Fleet                               1                               or  
tel (613) 993-2479                   1                               ve3uav@amsat.org  
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Date: Thu, 19 Aug 1993 21:04:32 GMT  
From: spool.mu.edu!sol.ctr.columbia.edu!news.kei.com!news.oc.com!convex!  
cowart@uunet.uu.net  
Subject: antenna protection  
To: ham-ant@ucsd.edu

drobert@vax2.concordia.ca (DENIS ROBERT, VE2ILF) writes:

>     Hi all, I've just finished building a small 1/4 wave ground plane base  
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>some suggestions as to how I can keep this thing from oxydizing (I assume it  
>will very quickly!). Can it be painted or lackered over without affecting  
>performance?  
  
>     Any ideas will be appreciated.  
>                               Thanks & 73 de Denis.

There is no need to protect the copper wire. I have had copper wire dipoles up  
for many years without any degredation to performance.

CUL es 73, Mike, WA5CMI

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Date: 19 Aug 93 21:18:00 GMT  
From: concert!duke!news.duke.edu!ee.ee.duke.edu!jbs@decwrl.dec.com  
Subject: ASA 9209 2M colinear - opinions?  
To: ham-ant@ucsd.edu

In article <1993Aug18.200253.2207@galileo.cc.rochester.edu>  
owens@cookiemonster.cc.rochester.edu (Bill Owens) writes:  
>I just ran across an ad for this antenna, at what seems a very nice  
>price (less than \$40). Has anyone had experience with this antenna? I  
>was planning on building something simple and cheap to put on the roof  
>before winter, with an eye towards something better at a later date,

>but if this is a good antenna I'll go for it now. I only ask because  
>it seems too good (cheap) to be true ;)

I bought one of these, and installed it so that the base of the antenna sticks up more than ten feet above my roof. Performance is decidedly mediocre (though I used cheapie Radio Shack RG-8 for feedline, so all bets are off), and it was impossible to tune it for a reasonable SWR from 144-148. Though I followed their instructions exactly for tuning, the low point on the curve (around 1.1:1) remained down around 144; it's over 3:1 by the time you get near 148MHz. You supposedly tune it by bending the radials up or down to change the feedpoint impedance, and by adjusting the length of the top element. I kept adjusting the top element shorter and shorter, and cutting off a half inch every time I couldn't shorten it any more, but I could not move that low SWR point up into the middle of the 2m range no matter which way or how far those radials were bent.

I get better reception and transmission range, even on freqs with reasonable SWRs, with my ANLI AL-800 inside the house than I do with the 9209 above the roof.

Your mileage may vary.

73 de KD4LLV

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    You spend the night  
    Like you were spending a dime  
        - Lyle Lovett

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Date: 20 Aug 93 15:33:15 GMT  
From: ogicse!uwm.edu!linac!att!cbnewsm!jeffj@network.ucsd.edu  
Subject: Mininec questions  
To: ham-ant@ucsd.edu

I am hoping someone can help me out with some questions I have about Mininec. The printout I get has 3 columns, vertical DB, horizontal DB and total DB. Not sure which I should use to get a idea of the radiation pattern of the antenna I am designing, could someone help me here? Also when I do a 1/2 wave dipole over average ground I get radiation angles that don't match any of the patterns I have seen for 1/2 wave dipoles. They are close such as, in the books they show a major lobe at 30 degrees, whereas mininec shows a major lobe at 50 degrees. The height of the dipole is at 1/2 wave. The antenna resistance and reactance is at about what ARRL Antenna Handbook says it should be. Could someone please help me out here? I could probably buy ELNEC but I want to master this program first. Thanks and 73!

Jeff

Jeff Jones AB6MB		OPPOSE THE NORTH AMERICAN FREE TRADE AGREEMENT!
jeffj@seeker.mystic.com		Canada/USA Free Trade cost Canada 400,000 jobs.
Infolinc BBS 510-778-5929		Want to guess how many we'll lose to Mexico?

Looking for information.

I picked up the old rotator without a control box, It looks much like a hy-gain CD-45. I heard that CDE (the rotator company Hy-gain purchased) made a TR-20 sometime ago. I'm sure this is a pretty old rotator and most likely this one is older than the TR-20's. I opened this thing up and it is in perfect condition. It has 8 wires much like the CD45's and the HAM, and tailtwiter rotators. The Gears are in perfect shape, and the only Identification it has is in on the ring gear "TR 18". It's a bell shape rotator and seems to hold up well, It sat up on a tower for about 20 years.

Thanks!

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/_)_ Russ Starksen ,,, Fax: (612) 683-3699
/_ \_/_/_/_/_)_ _ rps@cray.com (.~.) phone: (612) 683-3635
-... .-:----- -- .-: .-: -----o00--( )--00o----- NQMRR @ KBOGF.MN.USA.NOAM

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|> In article <24segg$iee@huon.itd.adelaide.edu.au>
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bvandepe@physics.adelaide.edu.au (Brenton Vandeppeer) writes:  
 |> >crisp@netcom.com (Richard Crisp) writes:  
 |> >  
 |> >>In article <243bkoINNb4@gap.caltech.edu> slr@cco.caltech.edu (Steve L.  
 Rhoades) writes:  
 |> >>  
 |> >>For those interested in a bit more rigorous treatment:  
 |> >  
 |> >> $\lambda * f = \text{velocity of propagation (speed of light for a radio wave in air or vacuum)}$   
 |> >  
 |> >>where  $\lambda$  = wavelength  
 |> >> $f$  = frequency  
 |> >  
 |> >>for the approximation that light travels at the speed of  $3 \times 10^8$  meters/sec  
 |> >  
 |> >> $\lambda * f = 3 \times 10^8$   
 |> >  
 |> >>let  $f = 300 \text{ MHz}$ :  
 |> >  
 |> >> $\lambda = (300 \times 10^6 \text{ m/sec}) / (300 \times 10^6 \text{ cycles/sec})$   
 |> >> = 1 meter  
 |> >  
 |> >Well, if you're going to be rigorous, you should use the correct SI exponent  
 |> >abbreviation for millions of Hz. 300 MHz is some  $10^{12}$  times smaller than  
 |> >300 MHz.  
 |> >  
 |> >Just being picky... :-)  
 |> >  
 |> To really simplify things just do this:  
 |>  
 |> Speed of light = 300 million meters per second or  
 |> 980 million feet per second.  
 |> These speeds are are close enough for anything you probably want to do.  
 |>  
 |>  
 |> Thus: wavelength = speed of light divided by the frequency or  
 |> wavelength =  $300,000,000 / \text{frequency}$  gives wavelength in meters.  
 |> wavelength =  $980,000,000 / \text{frequency}$  gives wavelength in feet.  
 |>  
 |>  
 |> Lambda is a term I haven't used since college days (many years ago).  
 |> So I use wavelength which is a more descriptive term. Thus the  
 |> half wavelength of my CB antenna is 18 feet which is more clear than saying  
 |> that the half lambda of my CB antenna is 18 feet.  
 |>  
 |>

|> ray  
|>

Remember folks that light doesn't travel at the above listed speed in a wire. You need to take the speed times .95 for 95% of the speed of light. The formula for the half wavelength in a wire antenna (feet) is:

468/frequency=half wave in feet

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Date: Fri, 20 Aug 93 17:53:46 GMT  
From: psinntp!newsserver.pixel.kodak.com!kodak!ornitz@uunet.uu.net  
To: ham-ant@ucsd.edu

References <24segg\$iee@huon.itd.adelaide.edu.au>,  
<1993Aug18.172421.15502@cs.rochester.edu>, <1993Aug20.091116.71398@cc.usu.edu>k  
Subject : Re: Wavelength formula (end effects)

In article <1993Aug20.091116.71398@cc.usu.edu> bobw@techsun.cs.usu.edu  
(Bob Wood X3205) writes:  
>Remember folks that light doesn't travel at the above listed speed in a wire.  
>You need to take the speed times .95 for 95% of the speed of light. The  
>formula for the half wavelength in a wire antenna (feet)  
>is:  
> 468/frequency=half wave in feet

Sorry Bob, but this is not the reason for the 0.95 factor. The real reason is because of end effects with a finite wire size. The actual factor is somewhat dependent on the length to diameter ratio of the wire. For longwire antennas (long in terms of multiple wavelengths) the 0.95 factor is applied only to one of the half-wave sections, the remainder being sized according to free-space dimensions. The 0.95 factor applies most accurately for very thin antennas.

73, Barry WA4VZQ ornitz@kodak.com

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End of Ham-Ant Digest V93 #20

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